



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Hsuan-Yin Lan-Harget, et al.

Art Unit : 1617

Serial No. : 09/812,945

Examiner : M. Bahar

Filed : March 27, 2001

Title : HISTONE DEACETYLASE INHIBITORS

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REPLY BRIEF

Pursuant to 37 CFR 1.193(b)(1), Applicants respond to the new points raised in the Examiner's Answer as follows.

Issue 1: Rejection under 35 U.S.C. § 112, first paragraph

Claims 1, 2, 4-7, 10, 12, 18, and 40-46 stand rejected under 35 U.S.C. § 112, first paragraph, for lack of enablement.

The Examiner's Answer ("Answer") highlights the disagreement over claim language that lies at the heart of this appeal. The Examiner states that reading claim 1 in its entirety would lead the skilled artisan "to understand and practice the instant invention as a method of treating histone deacetylase mediated disorders in general and cancer (the elected disorder) in particular." Answer at 5. The Examiner's reading of claim 1 is incorrect.

As set forth in claim 1, applicants have discovered a method of inhibiting histone deacetylase in cells. The method includes:

- contacting the cells with an effective amount of a compound of formula (I), and
- determining whether the level of acetylated histones in the treated cells is higher than in untreated cells under the same conditions.

The law is settled that enablement need only correspond with the scope of the claimed invention, and that an Examiner may not require more from the Applicant. *See In re Geerdes*, 491 F.2d 1260, 1264 (C.C.P.A. 1974) ("The question thus raised is whether the scope of enablement, provided one of ordinary skill in the art by the disclosure, is commensurate with the

scope of protection sought by the claims.”). By misinterpreting claim 1 as protecting a method of “treating histone deacetylase mediated disorders in general and cancer (the elected disorder), in particular” the Examiner requires a scope of enablement that differs from the scope of the invention being claimed. Answer at 5.

The incorrect reading of claim 1 applied by the Examiner in this analysis arises from the phrase “thereby treating one or more disorders mediated by histone deacetylase” (emphasis added). As discussed in more detail in Applicant’s appeal brief (“Appeal Br.”), the “thereby” clause that is emphasized in the Examiner’s Answer merely states the result of the limitations of the claim and, as a result, adds nothing to the patentability or substance of the claim. *See* Appeal Br. at 3 (citing *Texas Instruments Inc. v. United States Int’l Trade Comm’n*, 988 F.2d 1165, 1172 (Fed. Cir. 1993)). As such, Applicants are not required to enable the result of performing the claimed method. Further, as discussed in Applicants’ Appeal Brief, the Applicants’ election of cancer in response to the election of species required by the Examiner was solely for the purposes of guiding examination, and has no bearing on the scope of the claim. Accordingly, Applicants respectfully request reversal of the rejection under 35 U.S.C. § 112, first paragraph.

Issue 2: Rejection under 35 U.S.C. § 103

Claims 1, 2, 4-7, 10, 12, 17, 18, and 40-46 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Richon and Marks.

The Examiner appears to raise a new point by characterizing the instant claims as merely claiming an “elucidation of mechanism of action” or a “mode of action elucidation.” *See* Answer at 6 (“The instant claims are directed to effecting a biochemical pathway with known hydroxamic acid derivatives.”). Applicants respectfully disagree. Applicants are claiming neither a “mechanism of action” nor a “mode of action,” as suggested by the Examiner’s answer. As mentioned above, Applicants have invented a *method* of inhibiting histone deacetylase in cells including contacting the cells with an effective amount of a compound of formula (I), and determining whether the level of acetylated histones in the treated cells is higher than in untreated cells under the same conditions. The Examiner has explained how the claimed method represents an “elucidation of mechanism of action”.

Moreover, as presented previously, the combination of Richon and Marks does not render this method obvious. Importantly, the Examiner states that “[t]he ultimate utility for the class of compounds … is old and well known, rendering the claimed subject matter obvious to the skilled artisan.” Answer at 6-7. Applicants remind the Examiner that utility and obviousness are different requirements. The Examiner’s statement that “[t]he ultimate utility for the class of compounds … is old and well known” does not mean that “the claimed subject matter [would be] obvious to the skilled artisan.”

The Examiner next states that Marks provides a “guide” in choosing hydroxamic acid derivatives. *See* Answer at 7. The Federal Circuit has made it clear that such “general guidance” is insufficient to render a claim obvious. *In re Roemer*, 258 F.3d 1303, 1309-10 (Fed. Cir. 2001) (“[T]he Smith patent gives only general guidance as to the particular form of the claimed invention or how to achieve it. This “obvious to try” suggestion does not render claim 1 of the Roemer reissue application obvious.” (citations omitted)). In order to render claim 1 of the present application obvious, the cited reference must provide more than a “guide”; it must provide the required suggestion and motivation for one of ordinary skill in the art (1) to modify compounds disclosed in the reference(s) to arrive at the compounds of formula (I), and (2) to use those compounds in the claimed method. As discussed in more detail in Applicants’ appeal brief, neither Marks nor Richon provide such motivation. *See* Appeal Br. at 4-6.

In addition, the Examiner quotes Marks at page 7 of the Answer, but omits Marks’ reference to Figure 4 at the end of the sentence. *See* Marks at 1212, second column. Figure 4 shows only four specific hydroxamic acid-based hybrid polar compounds: SBHA, SAHA, CBHA, and pyroxamide, *see* Marks at 1213 first column, of which only SAHA and pyroxamide are considered the “lead compounds,” *see id.* at 1214, second column. The four sentences in the text following the Examiner’s quotation discuss the effects of substituting or modifying various characteristics of hydroxamic acid-based HPCs, such as substituting or modifying a hydroxamic acid group, modifying a benzene ring, and modifying a spacer. *See id.* at 1212-13. Marks does not provide any motivation or suggestion to make the numerous selections of the specific groups chosen in the example constructed by the Examiner with the benefit of hindsight. *See* Answer at